

Case 3580***Exechocentrus lancearius* Simon, 1889 (Arachnida, Araneae, ARANEIDAE): proposed replacement of the holotype by a neotype**

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Abstract. The purpose of this application, under Article 75.5 of the Code, is to replace the holotype of *Exechocentrus lancearius* Simon, 1889, an incomplete specimen, with a neotype.

Keywords. Nomenclature; taxonomy; Arachnida; Araneae; ARANEIDAE; MASTOPHORINAE; *Exechocentrus*; *Exechocentrus lancearius*; bolas spiders; Madagascar.

1. Simon (1889, p. 227) described the new genus and species *Exechocentrus lancearius* based on a single female specimen from Madagascar which was missing the abdomen (and therefore the genitalia, assuming that it was an adult specimen). Simon probably felt compelled to describe this species, despite the incomplete specimen, because of the unusual and bizarre spines and projections of the cephalothorax (Fig. 1). Simon redescribed the same specimen in 1895 (p. 888, figs. 951–953). No other species has been described for the genus. To this date, males of *Exechocentrus* remain unknown.

2. The first complete adult specimen of *Exechocentrus*, a female, was collected by researchers from the California Academy of Sciences in Madagascar in 2000. A second complete adult female was collected by us in Madagascar in 2009. As far as we have been able to determine, no other adult specimens of *Exechocentrus* exist in collections. Altogether three juveniles have been reported from the literature (Emerit 1980, 2000).

3. The two adult specimens have the same unusual and bizarre spines and projections on the cephalothorax as those observed on the holotype of *Exechocentrus lancearius* (MNHN catalogue number ES 8339; Fig. 1), but these two adult specimens clearly represent two different species, as shown by their different genitalia as well as the different abdominal shape and length of the abdominal projections.

4. In most spider groups (including the family ARANEIDAE) genitalia provide the most accurate way for discriminating species because very often congeneric species have very similar somatic morphology but vary in their genitalic structures. Since the type material of *Exechocentrus lancearius* consists only of the cephalothorax (i.e. is

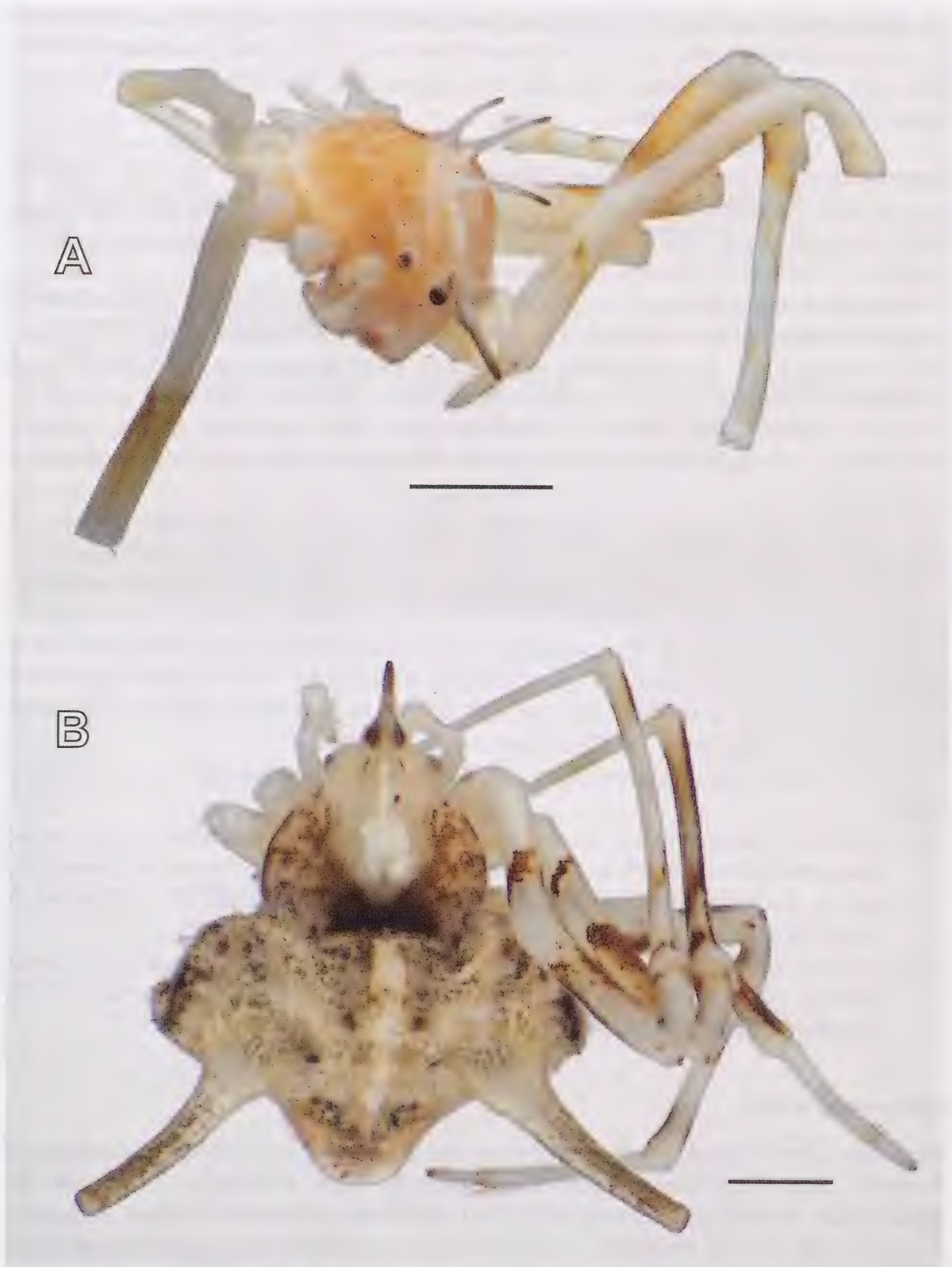


Fig. 1. *Exechocentrus lancearius* Simon, 1889: **A**, original holotype (catalogue number ES 8339); **B**, proposed neotype (catalogue number ZMUC00021482). Scale bar: 1 mm.

missing the abdomen), and this does not include any diagnostic features that could link the type specimen with either of the adult specimens found, we are unable to fix the name of *Exechocentrus lancearius* to an adult specimen with genitalia.

5. Measurements of the holotype have been compared to similar measurements of the two adult specimens as well as measurements of the known juveniles (Emerit, 1980, pp. 14–17) and these data clearly suggest that Simon's original holotype represents a juvenile specimen.

6. Given the high diversity of spiders in Madagascar, it is entirely possible that more than two species of *Exechocentrus* exist on the island. For the sake of nomenclatural stability we would therefore like to fix this name to an adult specimen (with genitalia) and thus provide a species description that would allow future workers to accurately identify *Exechocentrus lancearius*.

7. The specimen proposed for neotype designation for *Exechocentrus lancearius* is an adult female (ZMUC00021482) that we collected in Madagascar near Ranomafana National Park. It is deposited at the Zoological Museum of the University of Copenhagen (Denmark). We have examined Simon's specimen, deposited in the Paris museum (MNHN ES 8339): its museum label data (as well as the original description) give only 'Madagascar' as the collecting locality, and no information about collector.

8. In summary, the taxonomic identity of *Exechocentrus lancearius* cannot be adequately determined from the holotype, which is an incomplete female specimen without genitalia. The name *lancearius*, if based on this specimen, may be considered a nomen dubium, thereby threatening the stability of both species and genus name. In order to fix the name of *Exechocentrus lancearius* to an adult specimen, we find it necessary to designate a neotype. According to Article 75.5 of the Code replacement of an unidentifiable name-bearing type with a neotype requires an application to the International Commission on Zoological Nomenclature.

9. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to set aside all previous type fixations for the name *lancearius* Simon, 1889, as published in the binomen *Exechocentrus lancearius*, and to designate as neotype the female specimen ZMUC00021482 deposited in the Zoological Museum, University of Copenhagen (Denmark);
- (2) to place on the Official List of Species Names in Zoology the name *lancearius* Simon, 1889, as published in the binomen *Exechocentrus lancearius* and as defined by the neotype designated in (1) above.

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